



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

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June 2, 1986

Mr. Kraig Grubaugh  
Mine Engineer  
Western States Mineral Corporation  
P.O. Box 1177  
Delta, Utah 84624

Dear Mr. Grubaugh:

RE: Seed Mix for the Drum Mine, Millard County, Utah, Act/027/007

The Division proposes the following seed mix to 1) satisfy the requirements for establishing a diverse vegetative cover, 2) be compatible with the Bureau of Land Management's recommendation and 3) be of reasonable cost.

<u>Common Name</u>	<u>Species</u>	<u>#/acre</u>	<u>Cost/#</u>
Western wheatgrass	( <u>Agropyron smithii</u> )	8	# 3
Indian ricegrass	( <u>Oryzopsis hymenoides</u> )	4	6
Galleta	( <u>Hilaria jamesii</u> )	2	20
Palmer penstemon	( <u>Penstemon palmeri</u> )	1	23
Yellow sweetclover	( <u>Melilotus officinalis</u> )	2	1
Fourwing saltbush	( <u>Atriplex canescens</u> )	2	5

Total pounds pure live seed = 19/acre

The approximate cost of this mix will be \$123 per acre.

I have also enclosed copies of the previously approved mix (which would cost about \$375 per pound) and the BLM suggested mix. As I indicated on the phone, both differ from those listed in your letter.

Sincerely,

Kathryn M. Mutz  
Reclamation Biologist

Enclosure

cc: J. Whitehead  
0531R-47



# Western States Minerals Corporation

## RESPONSES TO COMMENTS BY STEVE COX DRUM MINE

COMMENT: Since there is a single vegetation type, combine samples from mine and leach sites.

RESPONSE: This is provided in a revised Table 2 attached. (The corrected values are also provided.)

COMMENT: The cover values for the plots in the leach pad area are not equal to or exceed 100%.

RESPONSE: These values have been revised to increase cover values for perennials by 2 percent from 18 to 20 percent since the species which have less than 0.1 percent cover were not included in the totals and two species had inaccurate calculations. Three plots had cover values of less than 90 percent; these plots were adjusted to 95 percent or greater by increasing plot estimates. These increased values are included in the revised Table 2 attached.

COMMENTS: The recommended seed mixture should include a more diverse mixture.

RESPONSE: The seeding mixture has been revised as follows to include two forbs

Common Name	Scientific Name	Pounds/ Acre
Western wheat grass	Agropyron smithii	8
Indian ricegrass	Oryzopsis hymenoides	3
Needle and thread grass	Stipa vividula	3
Four-winged saltbush	Atriplex canescens	2
Globe mallow	Sphaeralcea grossulariaefolia	1
Yellow sweet clover	Melilotus officianalis	1
		<hr/> 18



BLM  
9/20/83

2

9. Disturbed areas will be seed drilled with hay mulching where necessary. Seeding will take place in Fall (September 15). Seed will consist of:

Crested wheat	5#/acre
Indian ricegrass	1#/acre
Yellow sweet clover	3#/acre
Shadscale	<u>1#/acre</u>

10#/acre

The authorized officer will be notified prior to the commencement of reseeding operations.

10. Bond be in conformance as set by Utah State Division of Natural Resources, Division of Oil, Gas, and Minerals with a copy of the bonding furnished the Bureau of Land Management.

11. Approval of Utah on leasing process.

12. Slopes on dump areas at close of operations will be placed on a 3:1 slope.

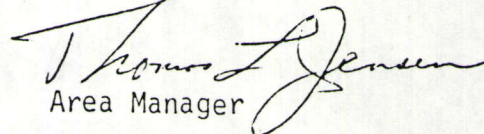
13. Diversion ditches with slopes that will cause accelerated erosion will be lined with riprap or other suitable material to stabilize stream channel and banks.

14. Water lines for piping of site water will be done with a right-of-way approval.

15. Before spent heaps are detoxified, the method will be furnished this office for approval before this operation begins, and the operation will be in conformance with the State of Utah laws.

16. Top soil will be removed and stockpiled from the leaching, shop, and waste dump areas. Top soil piles will be signed, compacted, and seeded.

Sincerely yours,

  
Area Manager